Rigstat provides instrumentation and communication packages powered by lead-acid batteries to the offshore energy drilling and production industry. Last year they conducted a comprehensive test of the SC-6, 6-Station HD Battery Recovery Charger to determine its effectiveness. Below is a synopsis of their findings.

Oil and gas installations are often located in remote places with limited access to power. The associated batteries must provide a reliable and consistent source of power while being sustainable so maintenance is minimized.

Industrial lead-acid batteries, specifically VRLA (valve-regulated lead-acid) batteries, are used due to their safety and reliability. However, these industrial lead-acid batteries tend to be expensive, as one battery can cost over $500. Usually these batteries aren't used in isolation, but in arrays, meaning assets with multiple-battery UPS could require thousands of dollars of batteries. It's crucial to be able to detect a defective battery right away, because although it may seem as if the entire battery system might require replacement, it may just be one defective battery. Isolating defective batteries and extending battery life could potentially save thousands of dollars.

Procedure

A PulseTech 777P-PT 12V Digital Battery Analyzer with Built-In Printer is used to assess the initial health of the 4-5 year old Deka 31HR5000 industrial batteries. Using a SENS NRG24-20 charger, all four batteries are fully charged. A discharge test, using the Lester 12/24 Battery Discharge Unit (Model 25270), is conducted on all four batteries to establish an initial baseline battery capacity. Then two batteries are selected as the Test Group, and are connected to the PulseTech SC-6 HD Recovery Charger. 2 batteries are selected as the Control Group, and continue to be charged with the SENS charger for 2 weeks. Weekly discharge tests are conducted. Then the control group is also connected for 2 weeks to the PulseTech charger. The batteries are tested with the 777P-PT on a regular basis.

The following items were used in the case study:

SENS NRG24-20

PulseTech 777P-PT

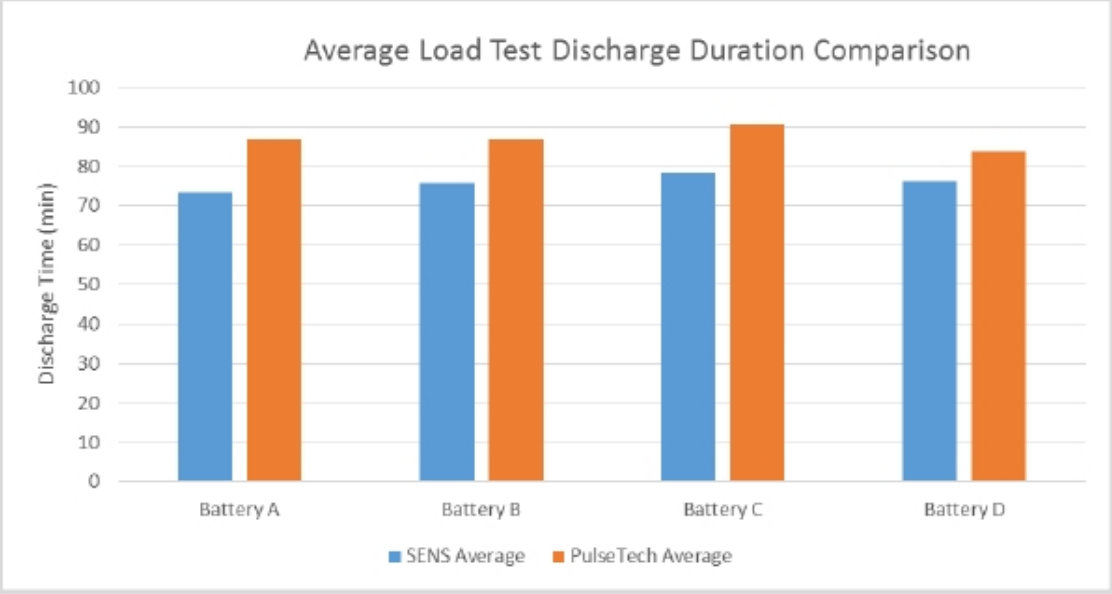
PulseTech SC-6

Deka Unigy 12V Model 31HR5000

Lester 12/24 Battery Discharge Unit

Results

Battery discharge duration is the best indicator of the health and capacity of a battery. PulseTech charged batteries saw an approximate 15% increase in discharge duration (run time). In fact, the PulseTech charger improved the discharge duration of all four batteries.



	Battery A (min)	Battery B (min)	Battery C (min)	Battery D (min)
SENS Average	73.29	75.61	78.17	76.36
PulseTech Average	86.89	86.77	90.74	83.74

Conclusion

It is evident PulseTech charging equipment significantly increases the discharge duration of lead-acid batteries. Having used four batteries that had been in use on an offshore drilling rig for over five years, it was clear the capacity had deteriorated over time. In fact, the shortest PulseTech charged battery discharge duration is significantly greater than the longest SENS-charged battery discharge duration. This is proof that battery discharge duration significantly increases due to the PulseTech charger. The PulseTech charger increased the battery discharge duration by reducing the sulfation that had occurred in these used batteries.

In terms of the PulseTech SC-6 product evaluation, the charger did successfully charge the Test Group batteries and reduce the battery sulfation.

“PulseTech chargers and test equipment definitely should be deployed on lead-acid batteries to improve overall operation and improve longevity.” Rigstat

Click here to view the full Rigstat report.